

CLAIMS

We claim:

1. An In-Plane Switching Liquid Crystal Display (IPS LCD), comprising:
 - a first substrate comprising a first transparent sheet;
 - a second substrate comprising in turn a second transparent sheet, an insulating layer and an alignment film, a plurality of electrodes and a thin film transistor formed between the second transparent sheet and the insulating layer; and
 - a liquid crystal layer interposed between the first and the second substrates;
 - wherein the alignment film has an alignment structure thereon.
2. The IPS LCD of claim 1, wherein the first substrate further comprises a color filter layer formed on the first transparent sheet.
3. The IPS LCD of claim 1, wherein the alignment film is made of polyimide.
4. The IPS LCD of claim 1, wherein the alignment film is made of polyethylene.
5. The IPS LCD of claim 1, wherein the alignment film is made of polystyrene.
6. A method for manufacturing an In-Plane Switching Liquid Crystal Display (IPS LCD), comprising the steps of:
 - providing a first transparent sheet and a second transparent sheet facing to each other;
 - attaching a color filter layer on the first transparent sheet to form a first substrate;
 - forming a plurality of electrodes and a thin film transistor on the second transparent sheet;
 - attaching an insulating layer on the electrodes and the thin film transistor;
 - forming an alignment film with an alignment structure on the insulating layer

to form a second substrate;

assembling the first substrate and the second substrate to form a liquid crystal box;

injecting liquid crystal molecules into the liquid crystal box to form the IPS LCD.

7. The method of claim 6, wherein the alignment film with the alignment structure is formed by a rubbing process.

8. The method of claim 6, wherein the alignment film with the alignment structure is formed by an ultraviolet alignment.

9. The method of claim 6, wherein the alignment film with the alignment structure is formed by a lithographic alignment.

10. An In-Plane Switching Liquid Crystal Display (IPS LCD), comprising:

a first substrate comprising a first transparent sheet;

a second substrate comprising in turn a second transparent sheet, an insulating layer, a plurality of electrodes and a thin film transistor formed between the second transparent sheet and the insulating layer; and

a liquid crystal layer interposed between the first and the second substrates;

wherein

only one alignment film is applied to only one of said first substrate and said second substrate, directly facing said liquid crystal layer.